NEXCOM International Co., Ltd.

Digital Signage Platform (MMS) NDiS 161

User Manual

NEXCOM International Co., Ltd.
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PREFACE

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Acknowledgements

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Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC Class A

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2002/95/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2006 will be RoHS compliant. They will use the usual NEXCOM naming convention.

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Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

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Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

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Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Input voltage must be 12Vdc, 5A max.
2. Handling the unit: carry the unit with both hands and handle it with care.
3. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.
4. CompactFlash: Turn off the unit's power before inserting or removing a CompactFlash storage card.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needlenose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

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Safety Precautions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.
7. Do not leave this equipment in either an unconditioned environment or in a above 40°C storage temperature as this may damage the equipment.
8. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
9. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
10. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
13. Never pour any liquid into an opening. This may cause fire or electrical shock.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
15. If one of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.

    b. Liquid has penetrated into the equipment.

    c. The equipment has been exposed to moisture.

    d. The equipment does not work well, or you cannot get it to work according to the user's manual.

    e. The equipment has been dropped and damaged.

    f. The equipment has obvious signs of breakage.
16. Do not place heavy objects on the equipment.
17. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
18. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
19. The computer is provided with CD drives that comply with the appropriate safety standards including IEC 60825.

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Package Contents

Before continuing, verify that the NDiS 161 package that you received is complete. Your NDiS 161 package should have all the items listed in the following table.

Item	P/N	Name	Qty	
1	50311F0100X00	ROUND HEAD SCREW W/SPRING+FLAT WASHER LONG FEI:P3x6L	1	PCS
2	60233DVI18X00	DVI-I to DVI-D & D-sub cable EDI:2A1292250101-RS	1	PCS
3	5060600049X00	2.5 HDD MYLAR NORMARK: DA-P3B01-569001	1	PCS
4	50311F0095X00	FLAT HEAD SCREW LONG FEI:F6#32Tx5 NYLOK NIGP	1	PCS
5	7400060002X00	POWER ADAPTER FSP:FSP060-1AD101C (N09001)	1	PCS
6	60177B0057X00	(N)NEX661 QUICK REFERENCE GUIDE VER:B	1	PCS
7	50344C0034X00	COPPER POST LONG FEI:COPPER POSTS 6.5x5xM3	1	PCS
8	5043330226X00	NDiS161 HDD BRACKET CHYUAN JYH:L10Z334	1	PCS
9	60233ATA12X00	(N)SATA CABLE FOR NISE 1000 BEST	1	PCS
10	602DCD0159X00	(N)NEX661 CD DRIVER VER:3.0	1	PCS

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Conventions Used in this Manual

Warning: Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution: Information to avoid damaging components or losing data.

Note: Provides additional information to complete a task easily.

Ordering Information

- **NDiS 161DV (P/N: 10W00016100X0)**
  - Intel® Core 2 Duo, Core Duo, Celeron® M fan-less barebone system
  - Intel® 945GME/ICH7M with CRT/DVI/TV
- **NDiS 161D2 (P/N: 10W00016104X0)**
  - Intel® Core 2 Duo, Core Duo, Celeron® M fan-less barebone system
  - Intel® 945GME/ICH7M with CRT/DVI/TV

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Chapter 1: Product Introduction

Overview of NDiS 161DV

NDiS 161DV is designed for Digital Signage application. It provides ease of mounting the system behind large-size display devices such as LCD TV or PDP.

NDiS 161DV operates on Intel® mobile Core™ 2 Duo / Core™ Duo / Celeron® M processors. With its fanless thermal design, it can reduce maintainance cost and thus guarantees stability on 24/7 nonstop operation.

NDiS 161DV provides DVI and VGA display interfaces, one GbE Ethernet with optional wireless connectivity, USB 2.0 ports and a 2.5" drive bay for storage devices.

Key Features

- Powerful Digital Signage Player with Intel® Mobile Core™ 2 Duo processor
- Fanless for low power processors
- Intel® 945GME solution
- DVI / VGA / u-DOC / S-Video / Composite Video / Audio / S/PDIF / GbE LAN / USB
- +12V DC-in / ATX support
- 1 x SATA 2.5" HDD / CF (optional)

Physical Features

Front panel

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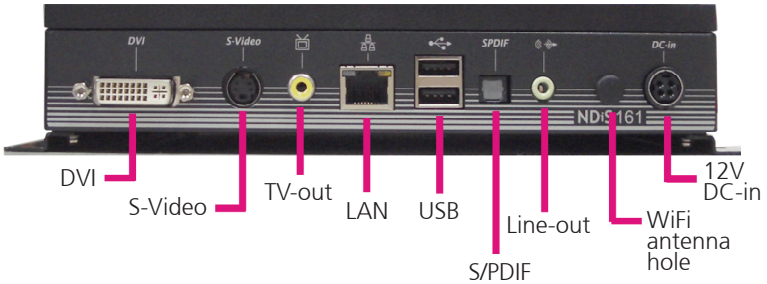
Side panel



Hardware Specifications

Main Board (NEX 661)

- mPGA478 ZIF socket
- Supports Intel® Core™ 2 Duo, Core™ Duo, Core™ Solo family processors with FSB 533/667MHz
- Intel embedded processor list (Intel™ Longevity CPU)
  - Core™ Duo T2500
  - Celeron-M 440
  - FANLESS for onboard low power processor
  - Core™ 2 Duo L7400
  - Core™ Duo L2400, U2500
  - Celeron® M 423

Chipset

- Intel® 945GME
- Intel® ICH7-M

Main Memory

- One 25° angled DIMM socket
- Supports DDR2 533/667MHz SDRAM with unbuffered and non-ECC memory module
- Supports up to 2GB memory

I/O Interface - Front

- DB9 port x1 for RS232
- Power-on LED x1
- HDD LED x1
- USB ports x2
- ATX Power-on button x1
- Reset button x1

I/O Interface - Side

- DVI x1 (DVI-I for CRT and DVI-D output via Y-cable)
- S-Video x1
- Phone-jack x1 for composite video
- RJ45 with LED x1 for 10/100/1000Mbps Ethernet
- USB x2
- S/PDIF x1
- Phone-jack for line-out x1
- Optional antenna for WiFi x1
- +12V DC-in power x1

Storage

- SATA 2.5” HDD storage x1
- u-DOC x1
- CF type I/II x1 (optional)

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Expansion Slot

- 1 optional mini PCIe slot for wireless module

Dimensions

- W: 280mm; D: 210mm; H: 40.7mm (without rackmount bracket)

Construction

- Top cover made of aluminum for heat dissipation
- Chassis made of steel - in black

Power Input

- External 80W AC/DC adapter x1
- AC-in: 100~240VAC
- DC-out: DC +12V

Environment

- Operating temperature: Ambient with airflow from 0°C ~ 45°C (HDD inside)
- Storage temperature: -20°C ~ 60°C, Humidity: 10% ~ 95% @ 40°C (non-condensing)

Certification

- CE approval
- FCC

Overview of NDiS 161D2

NDiS 161D2 is designed for Digital Signage application. It provides ease of mounting the system behind large-size display devices such as LCD TV or PDP.

NDiS 161D2 operates on Intel® mobile Core™ 2 Duo / Core™ Duo / Celeron® M processors. With its fanless thermal design, it can reduce maintainance cost and thus guarantees stability on 24/7 nonstop operation.

NDiS 161D2 provides DVI and VGA display interfaces, one GbE Ethernet with optional wireless connectivity, USB 2.0 ports and a 2.5" drive bay for storage devices.

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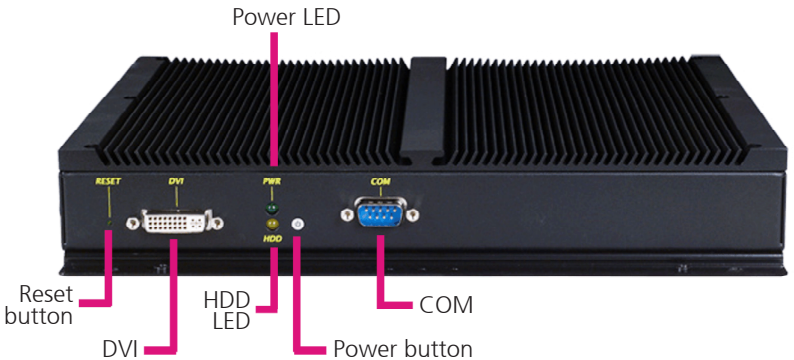
Key Features

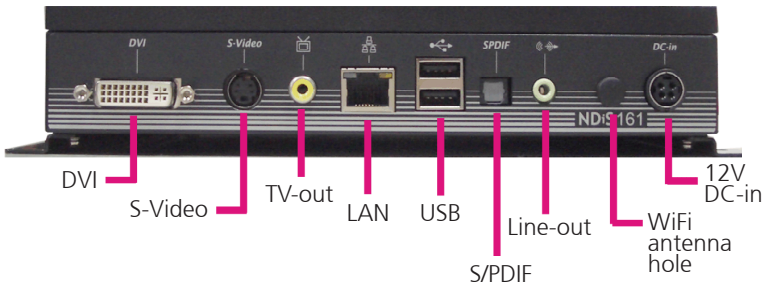
- Powerful Digital Signage Player with Intel® Mobile Core™ 2 Duo processor
- Fan-less for low power processors
- Intel® 945GME solution
- DVI / VGA / u-DOC / S-Video / Composite Video / Audio / S/PDIF / GbE LAN / USB
- +12V DC-in / ATX support
- 1 x SATA 2.5" HDD / CF (optional)

Physical Features

Front panel



Side panel



Hardware Specifications

Main Board (NEX 661)

- mPGA478 ZIF socket
- Supports Intel® Core™ 2 Duo, Core™ Duo, Core™ Solo family processors with FSB 533/667MHz
- Intel embedded processor list (Intel™ Longevity CPU)
  - Core™ Duo T2500
  - Celeron-M 440
  - FANLESS for onboard low power processor
  - Core™ 2 Duo L7400
  - Core™ Duo L2400, U2500
  - Celeron® M 423

Chipset

- Intel® 945GME
- Intel® ICH7-M

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Main Memory

- One 25° angled DIMM socket
- Supports DDR2 533/667MHz SDRAM with unbuffered and non-ECC memory module
- Supports up to 2GB memory

I/O Interface - Front

- DB9 port x1 for RS232
- Power-on LED x1
- HDD LED x1
- DVI-D x1 for DVI output
- ATX Power-on button x1
- Reset button x1

I/O Interface - Side

- DVI x1 (DVI-I for CRT and DVI-D output via Y-cable)
- S-Video x1
- Phone-jack x1 for composite video
- RJ45 with LED x1 for 10/100/1000Mbps Ethernet
- USB x2
- S/PDIF x1
- Phone-jack for line-out x1
- Optional antenna for WiFi x1
- +12V DC-in power x1

Storage

- SATA 2.5" HDD storage x1
- u-DOC x1
- CF type I/II x1 (optional)

Expansion Slot

- 1 optional mini PCIe slot for wireless module

Dimensions

- W: 280mm; D: 210mm; H: 40.7mm (without rackmount bracket)

Construction

- Top cover made of aluminum for heat dissipation
- Chassis made of steel - in black

Power Input

- External 80W AC/DC adapter x1
- AC-in: 100~240VAC
- DC-out: DC +12V

Environment

- Operating temperature: Ambient with airflow from 0°C ~ 45°C (HDD inside)
- Storage temperature: -20°C ~ 60°C, Humidity: 10% ~ 95% @ 40°C (non-condensing)

Certification

- CE approval
- FCC

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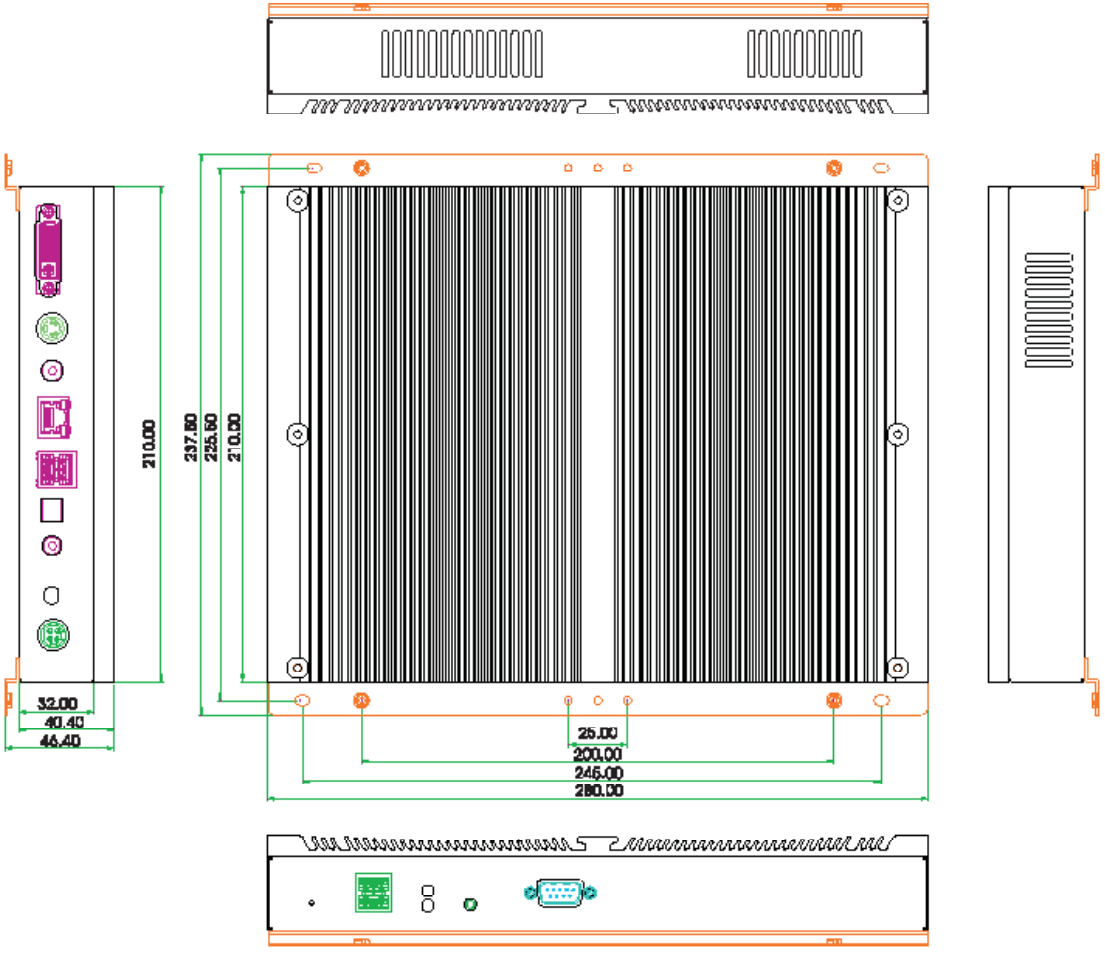
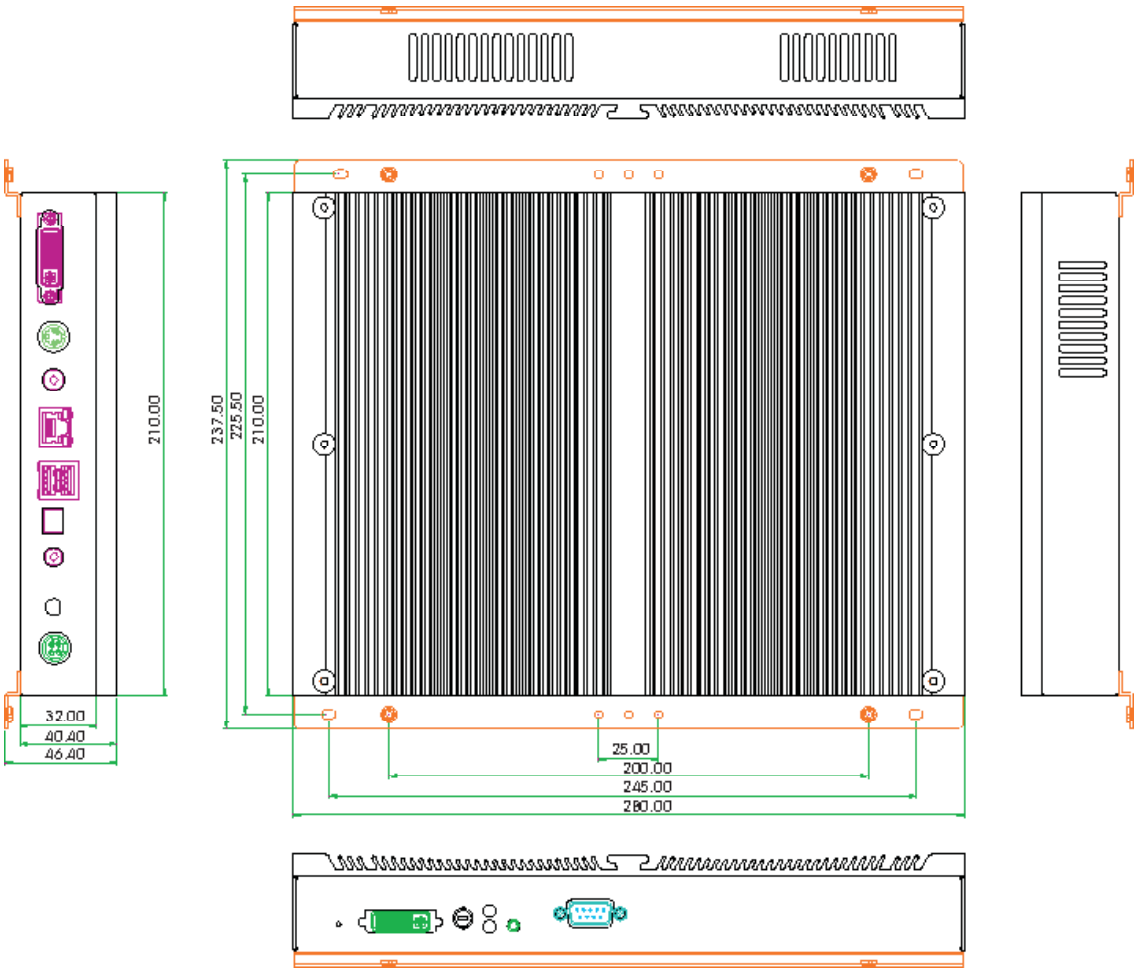
Mechanical Dimensions

NDiS 161DV



NDiS 161D2



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Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers on the NDiS 161 board. Note that the following procedures are generic for all NDiS 161 series.

Before You Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
  - A Philips screwdriver
  - A flat-tipped screwdriver
  - A set of jewelers Screwdrivers
  - A grounding strap
  - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.
- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environment tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on the computers that are still connected to a power supply can be extremely dangerous.

Follow the guidelines below to avoid damage to your computer or yourself:

- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

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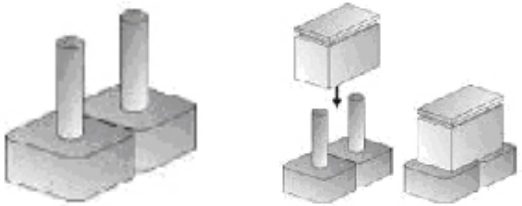
Jumper Settings

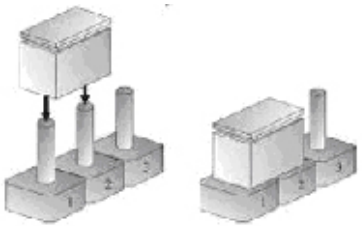
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is **short**. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is **open**.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).

Two-Pin Jumpers: Open (Left) and Short (Right)



Three-Pin Jumpers: Pins 1 and 2 Are Short



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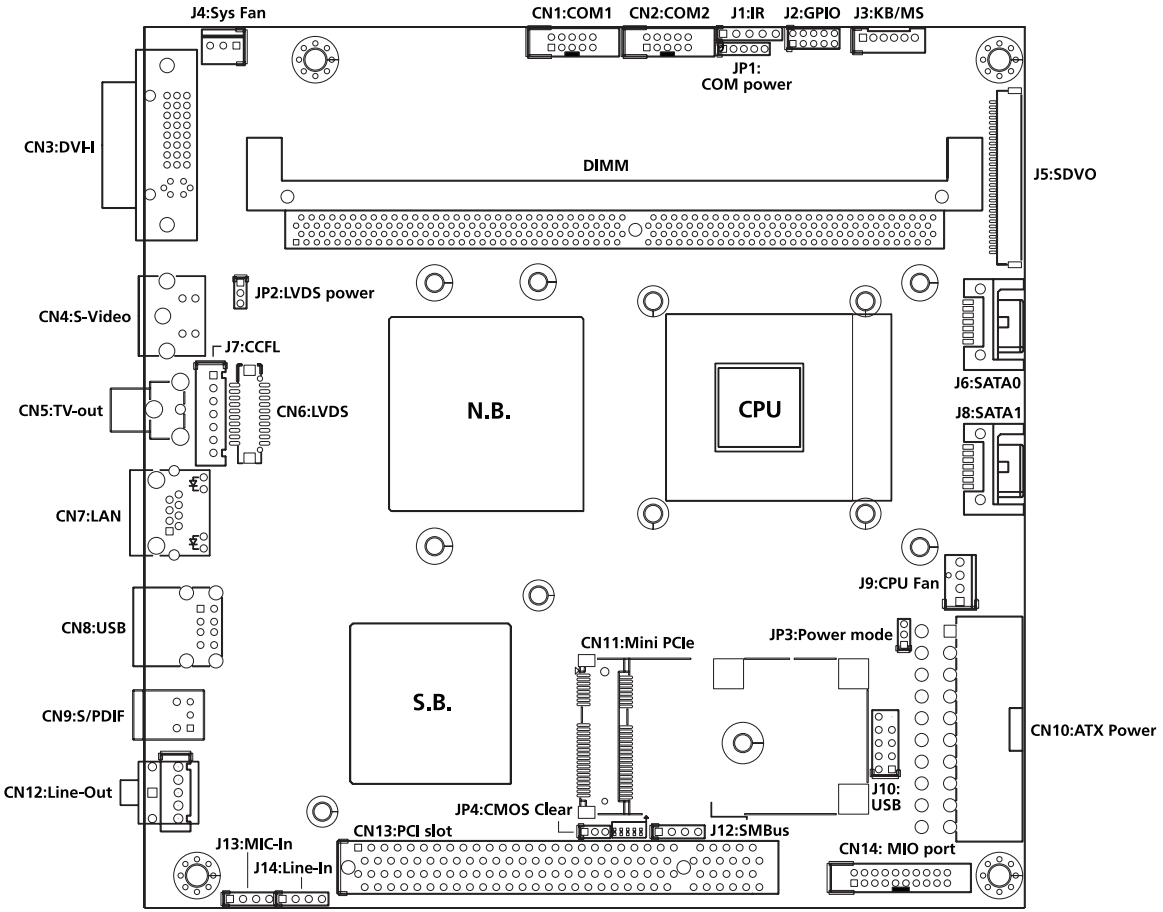
Locations of the Jumpers and Connectors

The following figure is the board used in the NDiS 161 system. It shows the locations of the jumpers and connectors.



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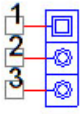
Pin Definitions

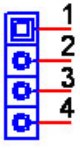
This section provides descriptions, illustrations and pin definitions of the jumpers and connectors.

CMOS Clear
JP4



Pin	Signal
1-2*	Normal
2-3	Clear CMOS

SMBus
J12

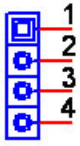


Pin	Signal
1	3VSB
2	SMB_CLK_RESUME
3	SMB_DATA_RESUME
4	GND

Mic-in
J13

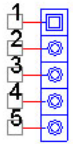
Pin	Signal
1	MIC1 _L3
2	GND
3	NC
4	MIC3 R3

Line-in
J14



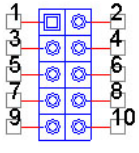
Pin	Signal
1	LINE_L3
2	GND
3	NC
4	LINE_R3

IR
J1



Pin	Signal
1	VCC5
2	CIRRX
3	IRRX
4	GND
5	IRTX

GPIO
J2



Pin	Signal	Pin	Signal
1	VCC5	2	GND
3	SIO_GP20	4	SIO_GP24
5	SIO_GP21	6	SIO_GP25
7	SIO_GP22	8	SIO_GP26
9	SIO_GP23	10	SIO_GP27

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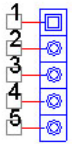
COM2 RS232 RI# Power Select

JP1



Pin Definition

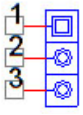
Pin	Signal
1	VCC5
2	SP_RI2_T
3	+12V
4	SP_RI2_T
5	SP_RI2

COM2 RS232 RI# Pin Select

Pin	Signal
1-2	+5V
2-3	+12V
4-5*	ring

LVDS Power Control

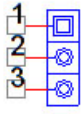
JP2



Pin	Description
1-2	VCC5_PANEL1
2-3*	VCC3_ PANEL1

ATX Power

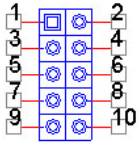
JP3



Pin	Description
1-2	AT MODULE
2-3*	ATX MODULE

USB

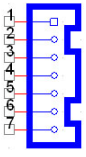
J10



Pin	Signal	Pin	Signal
1	P5V_USB_P23	2	P5V_USB_P23
3	USB2-	4	USB3-
5	USB2+	6	USB3+
7	GND_USB23	8	GND_USB23
9	NC	10	USB_OC23#

CCFL

J7



Pin	Signal
1	VCC5
2	PANEL1_BACKLIGHT
3	PANEL1_BACKLIGHT
4	L_BKLTCTL
5	GND
6	GND
7	L_BKLTEN

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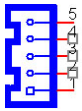
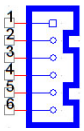
Audio
J11



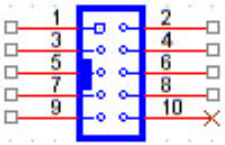
Pin	Signal
1	LOUT_R3
2	NC
3	NC
4	NC
5	LOUT_L3

KB/MS
J3



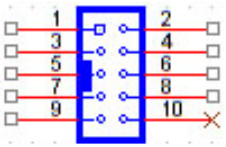
Pin	Signal
1	K/M_VCC
2	LKBDAT
3	LKBCLK
4	LMDAT
5	LMCLK
6	KBGND

COM1
CN1



Pin	Signal	Pin	Signal
1	SP_DCD1	2	SP_RXD1
3	SP_TXD	4	SP_TDR1
5	GND_SP	6	SP_DSR1
7	SP_RTS1	8	SP_CTS1
9	SP_RI1	10	GND_SP

COM2
CN2



Pin	Signal	Pin	Signal
1	SP_DCD2	2	SP_RXD2
3	SP_TXD	4	SP_TDR2
5	GND_SP	6	SP_DSR2
7	SP_RTS2	8	SP_CTS2
9	SP_RI2	10	GND_SP

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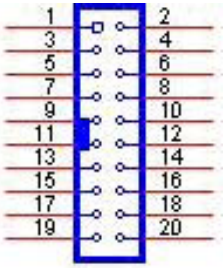
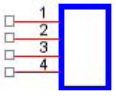
MIO Port
CN14



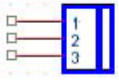
Pin	Description	Pin	Description
01	RESET#_SW	02	GND
03	PWRBT_SW	04	GND
05	PWR_LED_P	06	PWR_LED_N
07	HD_LED_P	08	HD_LED_N
09	5VDUAL	10	5VDUAL
11	USB_4N	12	USB_5N
13	USB_4P	14	USB_5P
15	GND	16	GND
17	VCC5	18	USB_OC45
19	NC	20	NC

CPU Fan
J9



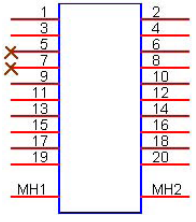
Pin	Signal
1	GND
2	+12V
3	VCC5
4	CPU_FAN_J

System Fan
J4



Pin	Signal
1	GND
2	+12V
3	VCC5

LVDS
CN6



Pin	Signal	Pin	Signal
1	L_DDC_CLK	2	L_DDC_DATA
3	PANEL1_VDD	4	LA_DATAP0
5	NC	6	LA_DATAN0
7	NC	8	PANEL1_VDD
9	LVDS_GND	10	LA_DATAP1
11	LA_CLKP	12	LA_DATAN1
13	LA_CLKN	14	LVDS_GND
15	LVDS_GND	16	PANEL1_BACK-LIGHT
17	LA_DATAP2	18	PANEL1_BACK-LIGHT
19	LA_DATAN2	20	LVDS_GND
MH1	GND	MH2	GND

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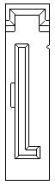
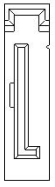
SATA0
J6



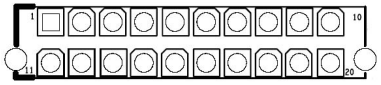
Pin	Description
1	GND
2	TXP0
3	TXN0
4	GND
5	RXN0
6	RXP0
7	GND

SATA1
J8



Pin	Description
1	GND
2	TXP1
3	TXN1
4	GND
5	RXN1
6	RXP1
7	GND

ATX Power
CN10



Pin	Description	Pin	Description
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	Power On
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	Power OK	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

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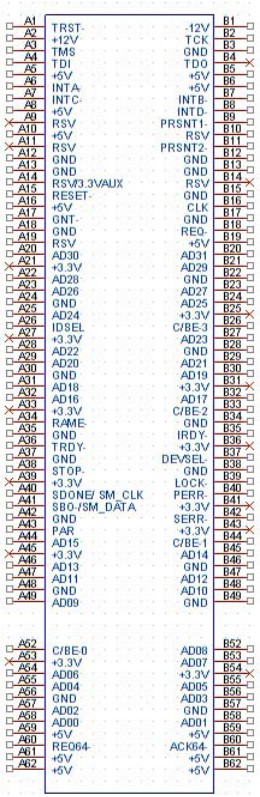
PCI

CN13


A1 TRST- -12V B1
A2 +12V TCK B2
A3 TMS GND B3
A4 TDI TDO B4
A5 +5V +5V B5
A6 INTA- +5V B6
A7 INTC- INTB- B7
A8 +5V INTD- B8
A9 RSV PRSNT1- B9
A10 +5V RSV B10
A11 RSV PRSNT2- B11
A12 GND GND B12
A13 GND GND B13
A14 RSV#3.3VAUX RSV B14
A15 RESET- GND B15
A16 +5V CLK B16
A17 GNT- GND B17
A18 GND REQ- B18
A19 RSV +5V B19
A20 AD30 AD31 B20
A21 +3.3V AD29 B21
A22 AD28 GND B22
A23 AD26 AD27 B23
A24 GND AD25 B24
A25 AD24 +3.3V B25
A26 IDSEL C/BE-3 B26
A27 +3.3V AD23 B27
A28 AD22 GND B28
A29 AD20 AD21 B29
A30 GND AD19 B30
A31 AD18 +3.3V B31
A32 AD16 AD17 B32
A33 +3.3V C/BE-2 B33
A34 RAME- GND B34
A35 GND IRDY- B35
A36 TRDY- +3.3V B36
A37 GND DEVSEL- B37
A38 STOP- GND B38
A39 +3.3V LOCK- B39
A40 SDONE/ SM_CLK PERR- B40
A41 SBO-/SM_DATA +3.3V B41
A42 GND SERR- B42
A43 PAR +3.3V B43
A44 AD15 C/BE-1 B44
A45 +3.3V AD14 B45
A46 AD13 GND B46
A47 AD11 AD12 B47
A48 GND AD10 B48
A49 AD09 GND B49
A52 C/BE-0 AD08 B52
A53 +3.3V AD07 B53
A54 AD06 +3.3V B54
A55 AD04 AD05 B55
A56 GND AD03 B56
A57 AD02 GND B57
A58 AD00 AD01 B58
A59 +5V +5V B59
A60 REQ64- ACK64- B60
A61 +5V +5V B61
A62 +5V +5V B62

Pin	Signal	Pin	Signal
A1	GND	B1	-12V
A2	+12V	B2	GND
A3	VCC5	B3	GND
A4	VCC5	B4	NC
A5	VCC	B5	VCC5
A6	PCI_IRQ#A	B6	VCC5
A7	PCI_IRQ#C	B7	PCI_IRQ#B
A8	VCC5	B8	PCI_IRQ#D
A9	NC	B9	GND
A10	VCC5	B10	PCI_REQ#1
A11	NC	B11	GND
A12	GND	B12	GND
A13	GND	B13	GND
A14	3VSB	B14	PCI_CLK1
A15	ICH_PCI_RST#	B15	GND
A16	VCC5	B16	PCI_CLK0
A17	PCI_GNT#0	B17	GND
A18	GND	B18	PCI_REQ#0
A19	PCI_PME#	B19	VCC5
A20	PCI_AD30	B20	PCI_AD31
A21	VCC3	B21	PCI_AD29
A22	PCI_AD28	B22	GND
A23	PCI_AD26	B23	PCI_AD27
A24	GND	B24	PCI_AD25
A25	PCI_AD24	B25	VCC3
A26	PCI_AD28	B26	PCI_#3
A27	VCC3	B27	PCI_AD23
A28	PCI_AD22	B28	GND
A29	PCI_AD20	B29	PCI_AD21
A30	GND	B30	PCI_AD19
A31	PCI_AD18	B31	VCC3
A32	PCI_AD16	B32	PCI_AD17
A33	VCC3	B33	PCI_CBE#2
A34	PCI_FRAME#	B34	GND
A35	GND	B35	PCI_IRDY
A36	PCI_TRDY#	B36	VCC3
A37	GND	B37	PCI_DEVSEL
A38	PCI_STOP#	B38	GND
A39	VCC3	B39	PCI_LOCK#
A40	SMB_CLK_MAIN	B40	PCI_PERR#
A41	SMB_DATA_ MAIN	B41	VCC3
A42	GND	B42	PCI_SERR#
A43	PCI_PAR	B43	VCC3
A44	PCI_AD15	B44	PCI_CBE#1
A45	VCC3	B45	PCI_AD14
A46	PCI_AD13	B46	GND

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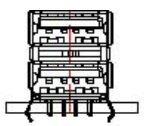
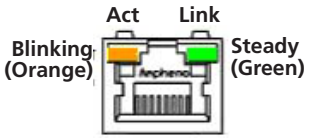
Pin	Signal	Pin	Signal
A47	PCI_AD11	B47	PCI_AD12
A48	GND	B48	PCI_AD10
A49	PCI_AD9	B49	GND
A50		B50	
A51		B51	
A52	PCI_CBE#0	B52	PCI_AD8
A53	VCC3	B53	PCI_AD7
A54	PCI_AD6	B54	VCC3
A55	PCI_AD4	B55	PCI_AD5
A56	GND	B56	PCI_AD3
A57	PCI_AD2	B57	GND
A58	PCI_AD0	B58	PCI_AD1
A59	VCC5	B59	VCC5
A60	VCC5	B60	VCC5

USB Port 0/1
CN8



Pin	Description	Pin	Description
1	VCC	5	VCC
2	USB_0N	6	USB_1N
3	USB_0P	7	USB_1P
4	GND	8	GND
MH1	GND_CAS	MH2	GND_CAS
MH3	GND_CAS	MH4	GND_CAS

LAN1
CN7



Pin	Signal	Pin	Signal
1	LAN1_TXD0P	2	LAN1_TXD0N
3	LAN1_TXD1P	4	LAN1_TXD2P
5	LAN1_TXD2N	6	LAN1_TXD1N
7	LAN1_TXD3P	8	LAN1_TXD3N
9	LAN_ACTLED#	10	3VSB
11	LAN_L100#	12	LAN1_L1000#
MH1	GND_CAS	MH2	GND_CAS

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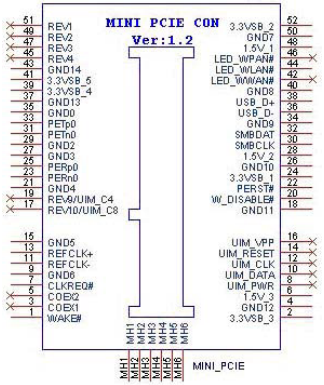
Mini PCIe

CN11



Pin	Signal	Pin	Signal
1	PCIE_WAKE#	2	+V3.3A_MINI
3	NC	4	GND
5	NC	6	+V1.5S_MINI
7	PCIE_MINI_ CLKREQ#1	8	NC
9	GND	10	NC
11	CK_MPCIE_N	12	NC
13	CK_MPCIE_P	14	NC
15	GND	16	NC
17	NC	18	GND
19	NC	20	MINICARD1_ DIS#
21	GND	22	PLT_RST_BUF#

Pin	Signal	Pin	Signal
23	PER_N1	24	+V3.3A_MINI
25	PER_P1	26	GND
27	GND	28	+V1.5S_MINI
29	GND	30	SMB_CLK_RE- SUME
31	PET_N1	32	SMB_DATA_ REAUME
33	PET_P1	34	GND
35	GND	36	USB_6N
37	GND	38	USB_6P
39	+V3.3A_MINI	40	GND
41	+V3.3A_MINI	42	NC
43	GND	44	LED_WLAN_N
45	NC	46	NC
47	NC	48	+V1.5S_MINI
49	NC	50	GND
51	NC	52	+V3.3A_MINI
MH1	GND	MH2	GND
MH3	GND	MH4	GND
MH6	GND		

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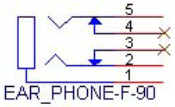
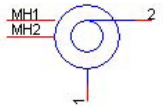
Line-out
CN12



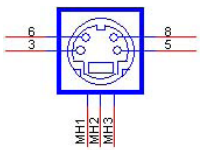
Pin	Signal	Pin	Signal
1	GND_AUD_CAS	2	LOUT_RBR
3	NC	4	NC
5	LOUT_LBR		

TV-out
CN5



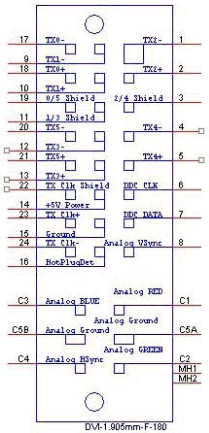
Pin	Signal	Pin	Signal
1	GND_CAS	2	CP_Pb
MH1	GND_CAS	MH2	GND_CAS

S-Video
CN4



Pin	Signal	Pin	Signal
1	GND_TV_CAS	2	CP_Pb
3	GND_TV	5	GND_TV
6	CP_Pr	8	CP_Y
MH1	GND_CAS	MH2	GND_CAS

DVI
CN3



Pin	Signal	Pin	Signal
1	TDC_2#	2	TDC_2
3	GND	4	NC
5	NC	6	DVI_DDC_C
7	DVI_DDC_D	8	VS_VGA
9	TDC_1#	10	TDC_1
11	GND	12	NC
13	NC	14	DVI_VCC
15	GND	16	HPDET
17	TDC_0#	18	TDC_0
19	GND	20	CLK_V
21	DATA_V	22	NC

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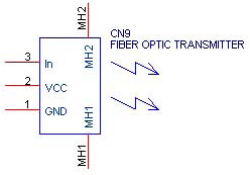
Pin	Signal	Pin	Signal
23	TLC	24	TLC#
C1	RED_VGA	C2	GREEN_VGA
C3	BLUE_VGA	C4	HS_VGA
C5A	GND_CRT	C5B	GND_CRT
MH1	GND_CAS	MH2	GND_CAS

S/PDIF

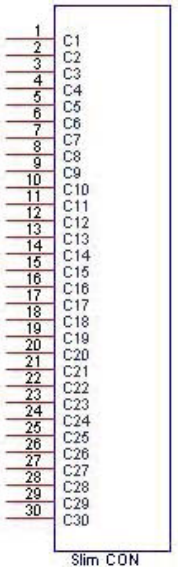
CN9



Pin	Signal	Pin	Signal
1	GND	2	P3V3_OPTIC
3	SPDIF_OUT	MH1	GND_CAS
MH2	GND_CAS		

SDVO

J5



Pin	Signal	Pin	Signal
1	GND	2	SDVOB_INT
3	SDVO_INT#	4	GND
5	SDVOB_R	6	SDVOB_R#
7	GND	8	SDVOB_G
9	SDVOB_G#	10	GND
11	SDVOB_B	12	SDVOB_B#
13	GND	14	SDVO_CTRL-CLK
15	SDVO_CTRL-DATA	16	PLT_RST_BUF2
17	GND	18	SDVOB_CLKP
19	SDVOB_CLKN	20	GND
21	VCC3	22	VCC3
23	VCC3	24	VCC3
25	GND	26	GND
27	GND	28	+12V
29	+12V	30	+12V

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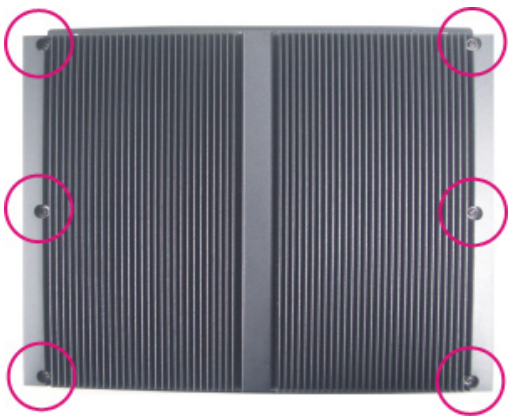
Chapter 3: System Setup

This chapter provides information on how to install the DIMM, CPU and storage devices.

Removing the Chassis Cover

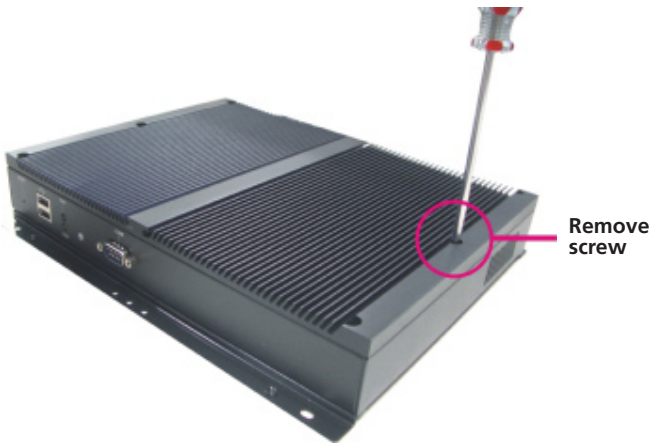
Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

1. The screws on the cover are used to secure the cover to the chassis.



Top View of the System

2. Remove these screws and put them in a safe place for later use. Lift the cover upward then remove it from the chassis.



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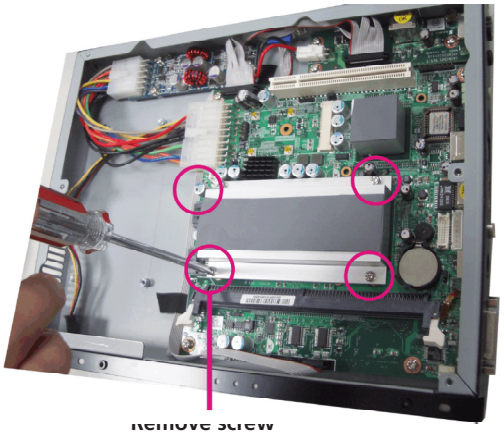
Installing the CPU

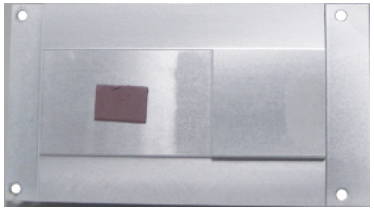
1. Remove the screws that secure the heat sink to the board. Save these screws for later use.



Remove screw

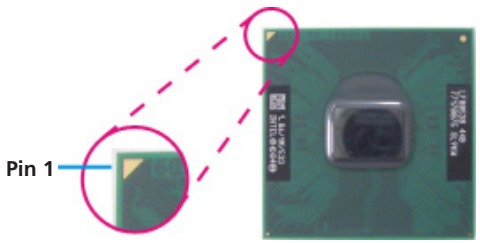
- Make sure all power cables are unplugged before you install the CPU.
- The CPU socket must not come in contact with anything other than the CPU. Avoid unnecessary exposure.

2. Now remove the heat sink to access the CPU socket.



Bottom Side of the Heat Sink

3. The gold triangular mark on the CPU must align with pin 1 of the CPU socket.



Handle the CPU by its edges and avoid touching the pins.

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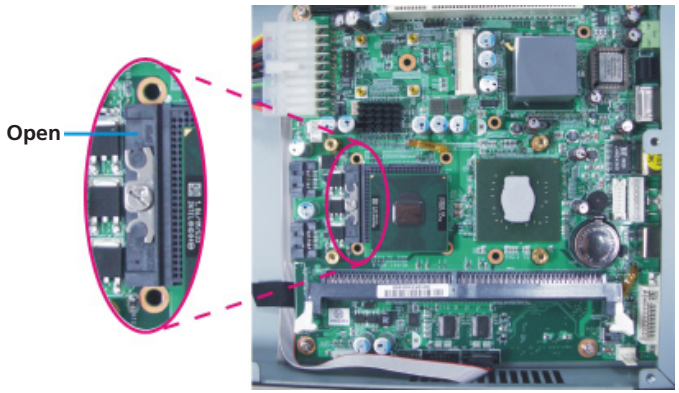
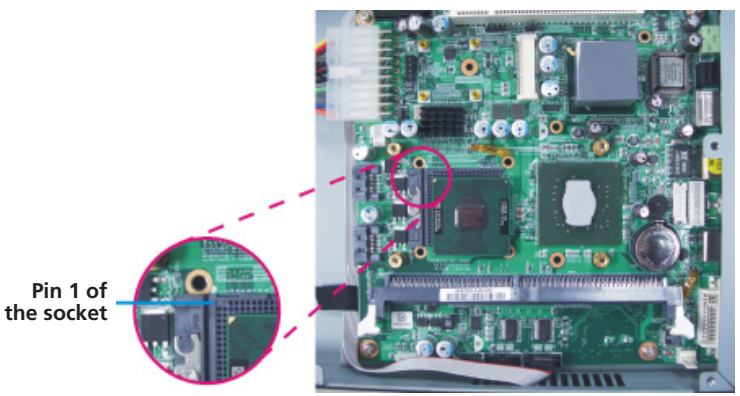
4. Before you install the CPU, make sure the screw is in the "Open" position.

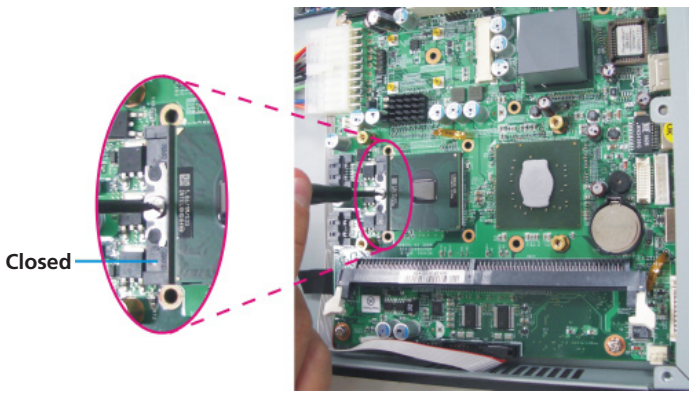


5. Position the CPU above the socket then insert it into the socket until it is seated in place. The CPU will fit in only one orientation and can easily be inserted without exerting any force.



Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.

6. Turn the screw to the Closed position to lock the CPU in place.



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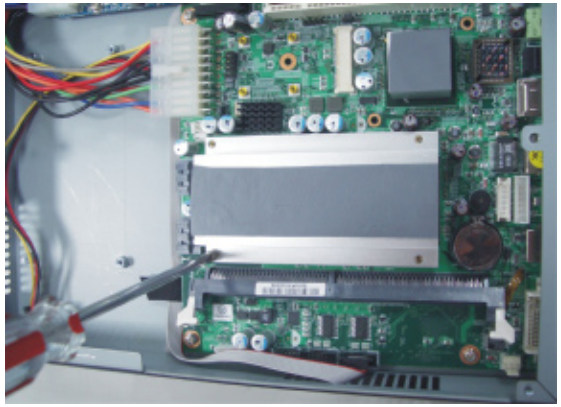
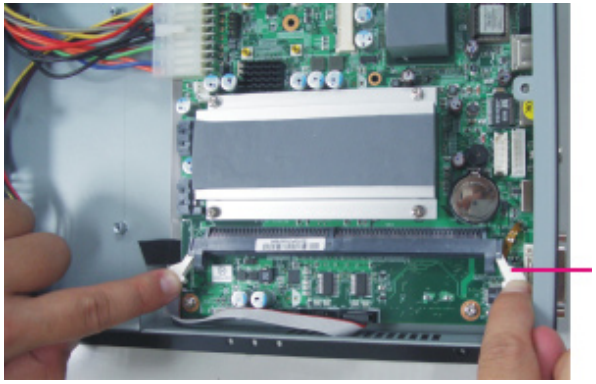
7. Replace the heat sink using the screws you removed earlier.



Installing a DIMM

The system board supports DDR2 533/667 DIMMs. When installing DIMMs, NEXCOM recommends using the same brand and type of memory modules.

1. Locate the DIMM socket on the board.
2. Push the ejector tab which are at the ends of the socket outward. This indicates that the socket is unlocked.



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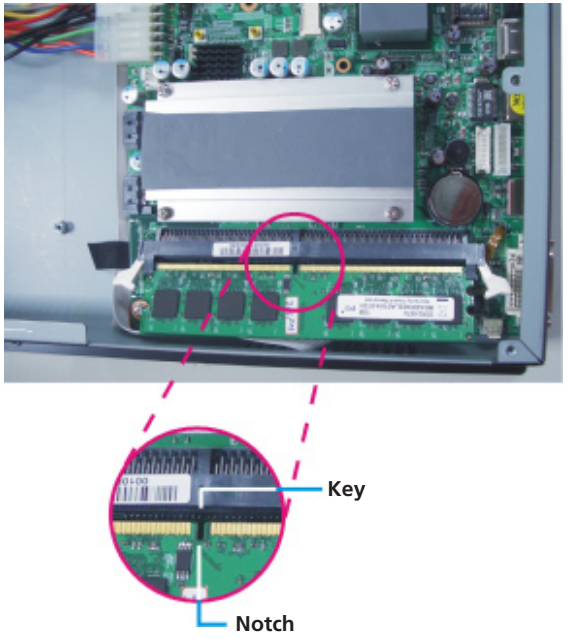
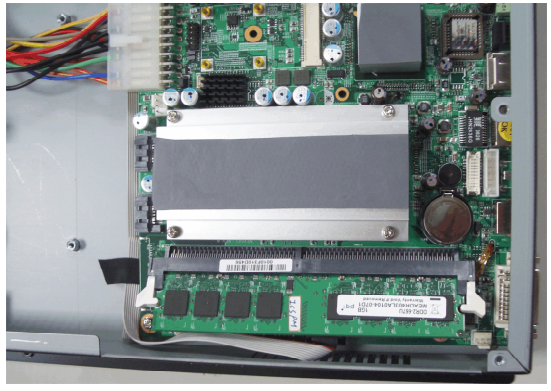
3. Note how the module is keyed to the socket. Grasping the module by its edges, align the module with the socket so that the "notch" in the module aligned with the "key" on the socket. The key ensures the module can be plugged into the socket in only one direction.



4. Insert the module into the socket at an approximately 30 degrees angle. Apply firm even pressure to each end of the module until it slips down into the socket. The contact fingers on the edge of the module will almost completely disappear inside the socket.

   Push the module down. The ejector tabs at the ends of the socket will automatically snap into the locked position to hold the module in place.



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Installing a SATA Hard Drive

1. The drive bay included in the package is used to hold a SATA hard drive.

2. Place the SATA hard drive onto the drive bay. Align the mounting holes that are on the sides of the SATA drive with the mounting holes on the drive bay then use the provided screws to secure the drive in place.

3. Place the SATA drive into the chassis then use the provided screws to secure the drive bay to the chassis.

4. Connect one end of the SATA data cable to the SATA connector that is on the system board.

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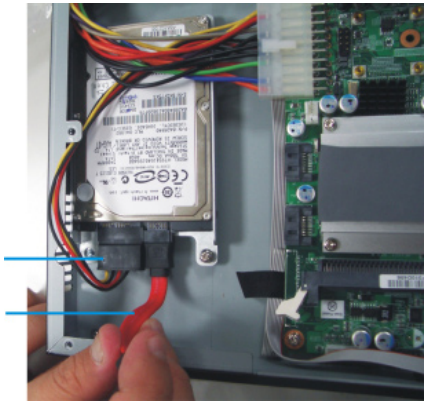
5. Connect the other end of the SATA data cable to the SATA connector at the rear of the SATA drive.

6. Connect the SATA power cable to the power connector at the rear of the SATA drive.



Installing a CompactFlash Card (optional)

Instead of using a SATA drive, the system provides the option of using a CompactFlash card by installing the optional SATA-to-CF converter board.

1. The drive bay included in the package is used to hold the SATA-to-CF converter board.

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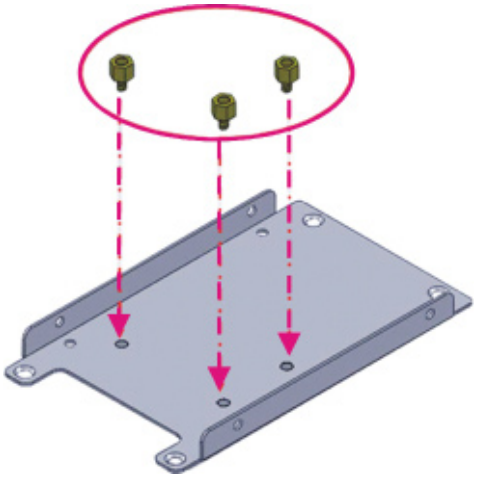
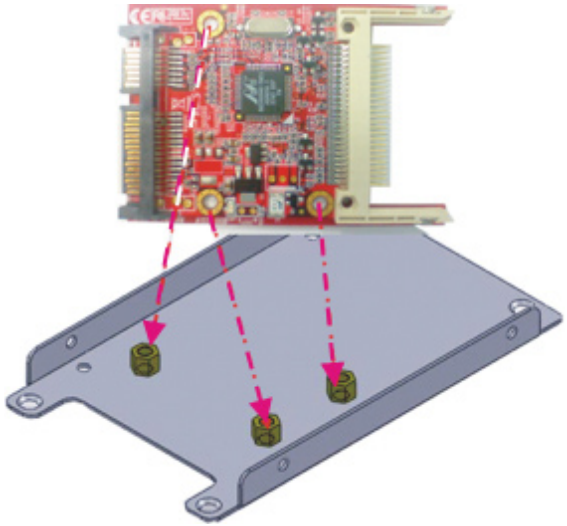
2. Attach the 3 copper studs (posts) on the drive bay as shown in the illustration below.



3. Place the SATA-to-CF converter board onto the drive bay then use the provided screws to secure the board to the bay.



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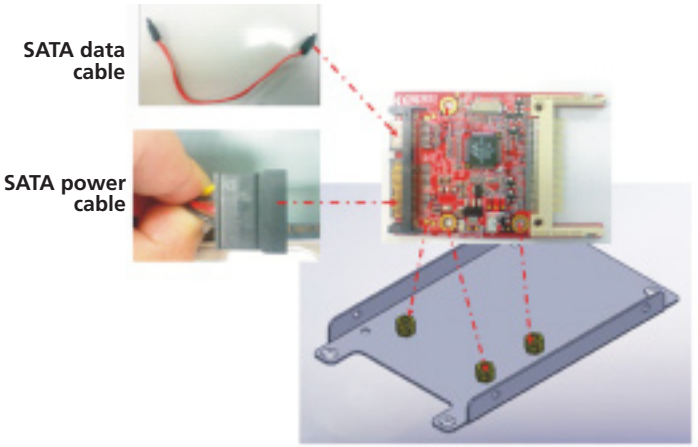
4. Connect one end of the SATA data cable to the SATA connector that is on the system board and the other end to the converter board.

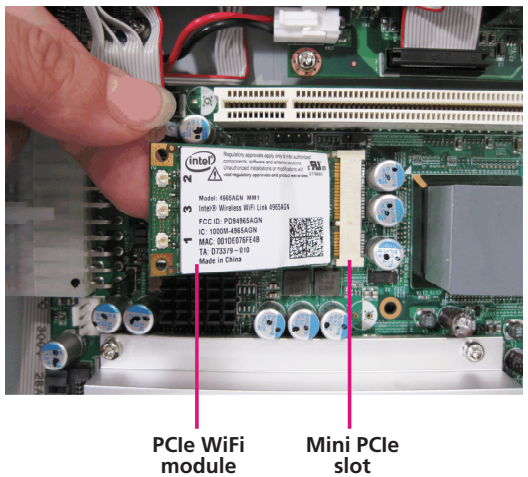
   Connect the SATA power cable to the power connector of the converter board.



5. With the CompactFlash card's label facing up, insert the CF card into the slot until it is completely seated in the slot.

Installing the WiFi Module

1. Insert the PCIe WiFi module into the Mini PCIe slot.



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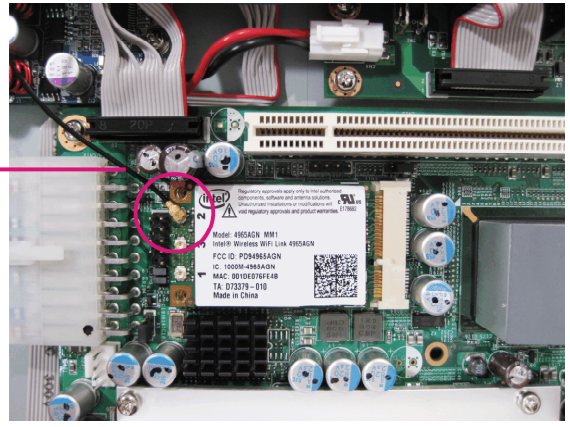
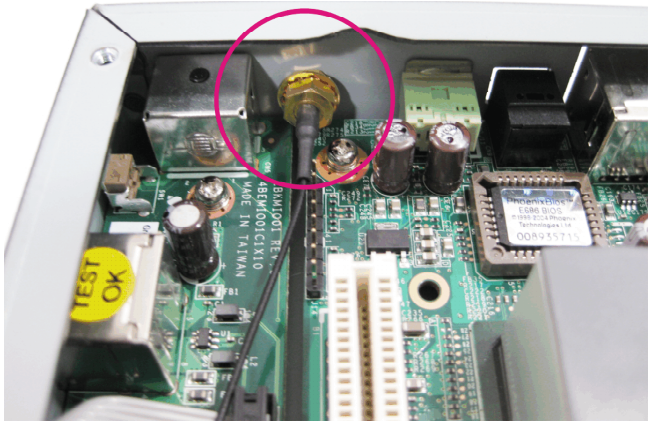
2. Attach one end of the RF cable onto the WiFi module.



3. Attach the other end of the cable to the WiFi antenna hole located at the side panel of the chassis.



Internal view of the side panel

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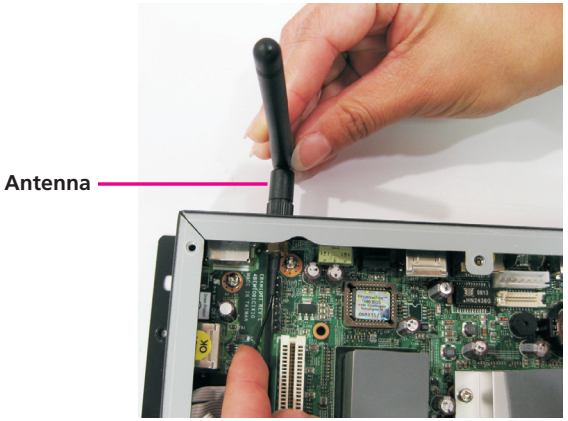
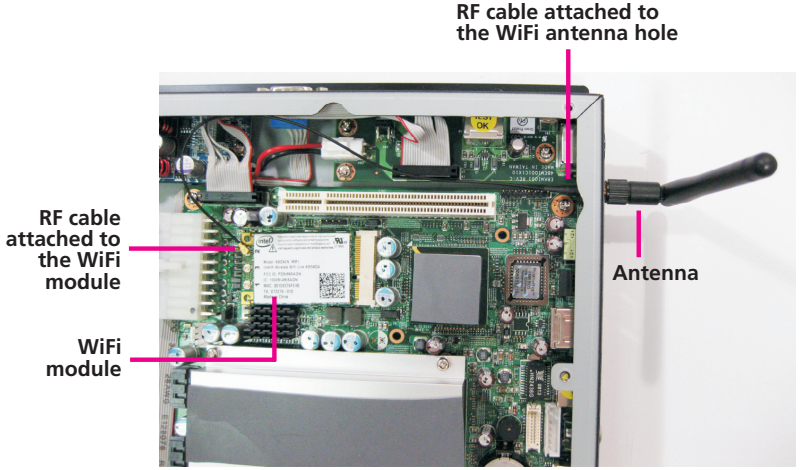
4. Now connect an external antenna to the WiFi antenna jack.



5. The photo below shows the completed WiFi antenna setup.



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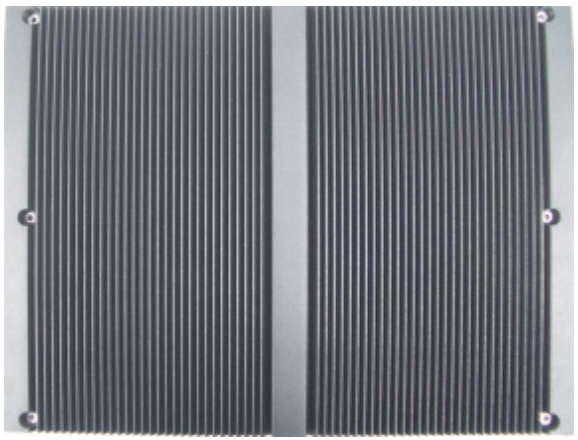
Replacing the Chassis Cover

1. Replace the chassis cover.



2. Secure the cover to the chassis using the screws you removed earlier.

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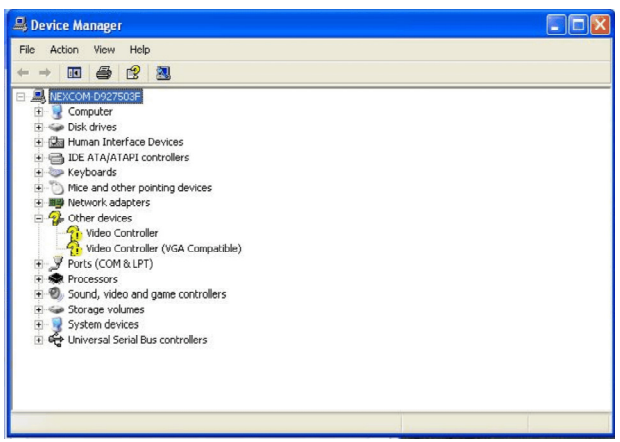
Chapter 4: IEGD Driver Installation

NDiS 161DV System Graphics Driver Installation

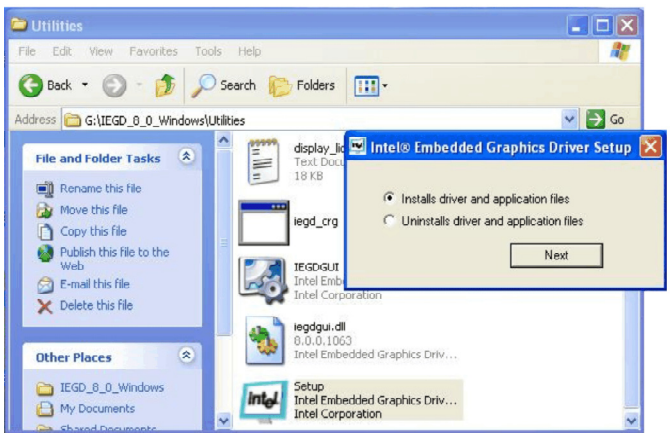
1. Prior to installing the dual display driver, make sure to first uninstall any existing graphics drivers.

   When you reboot the system, in Device Manager, yellow mark will appear next to the Video Controller.



2. Insert the provided CD into a CD-ROM drive.
3. In the "VGA\Clone_CRT+SDVO_C" and/or "VGA\Twin_CRT+SDVO_C" folder, double-click their respective Setup file to install the driver.

   Select "Installs driver and application files" then click Next.



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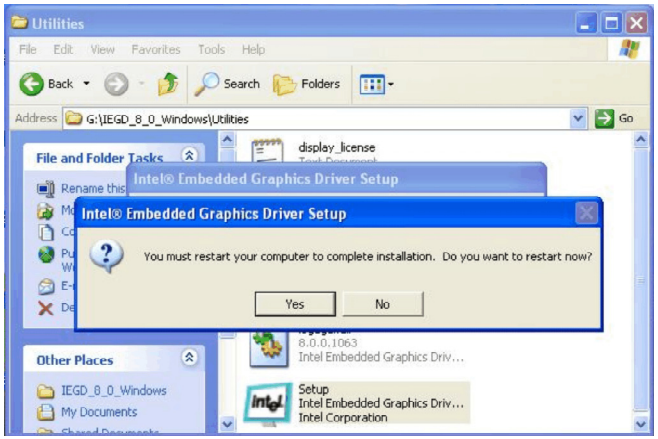
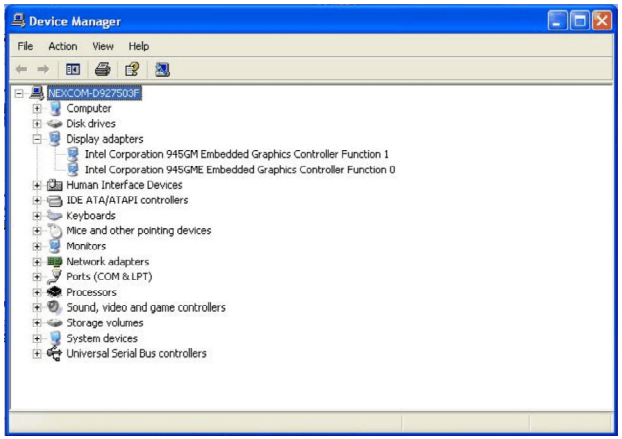
4. After completing installation, click Yes to restart the computer.



5. Device Manager is now able to detect the dual display graphics device.



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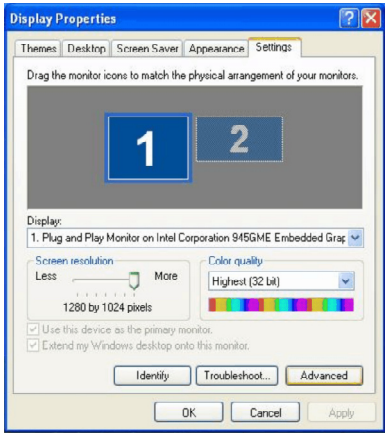
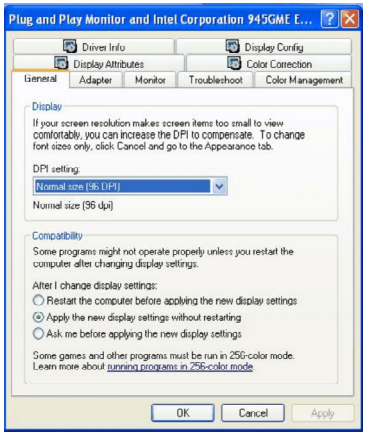
6. On your desktop, right-click your mouse then select Properties. You can also double-click Display in Control Panel.

   In the Display Properties dialog box, select the Settings tab then click Advanced.



7. In the Plug and Play Monitor and Intel Corporation dialog box, you will first see the General tab. Select the Display Config tab.


Plug and Play Monitor and Intel Corporation 945GME E...
Driver Info
Display Config
Display Attributes
Color Correction
General
Adapter
Monitor
Troubleshoot
Color Management
Display
If your screen resolution makes screen items too small to view comfortably, you can increase the DPI to compensate. To change font sizes only, click Cancel and go to the Appearance tab.
DPI setting:
Normal size (96 DPI)
Normal size (96 dpi)
Compatibility
Some programs might not operate properly unless you restart the computer after changing display settings.
After I change display settings:
Restart the computer before applying the new display settings
Apply the new display settings without restarting
Ask me before applying the new display settings
Some games and other programs must be run in 256-color mode. Learn more about running programs in 256-color mode.
OK
Cancel
Apply

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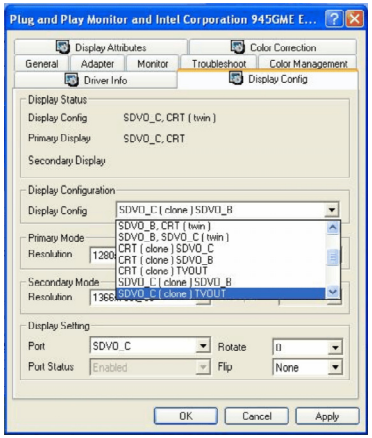
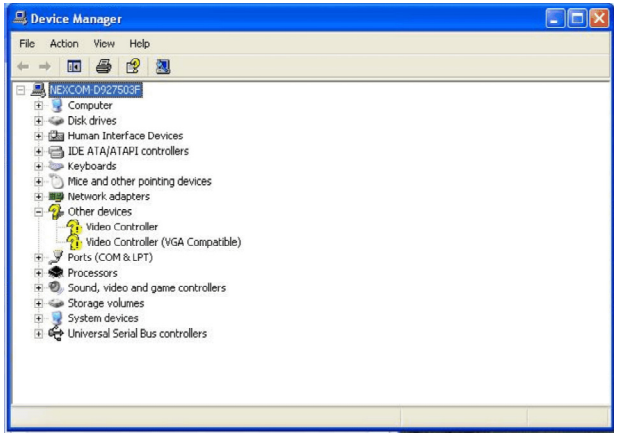
8. Under the Display Configuration section, select SDVO_C (clone) TVOUT then click OK.



NDiS 161D2 System Graphics Driver Installation

1. Prior to installing the dual display driver, make sure to first uninstall any existing graphics drivers.

   When you reboot the system, in Device Manager, yellow mark will appear next to the Video Controller.



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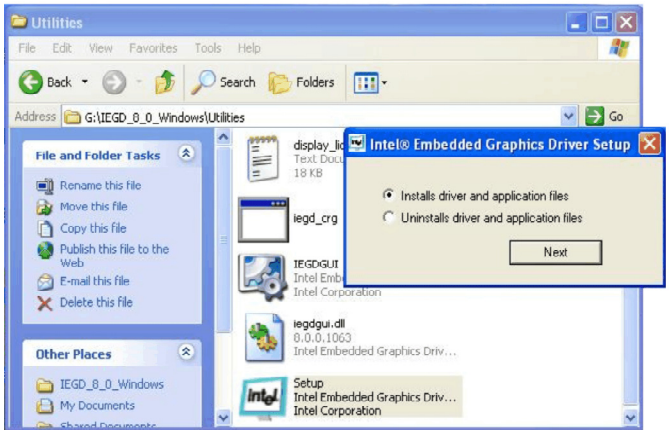
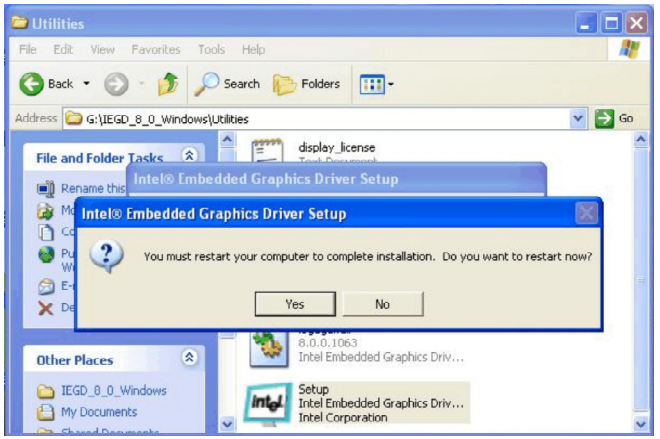
2. Insert the provided CD into a CD-ROM drive.
3. In the "VGA\Dual_DVI" folder, double-click the Setup file to install the driver.

   Select "Installs driver and application files" then click Next.



4. After completing installation, click Yes to restart the computer.



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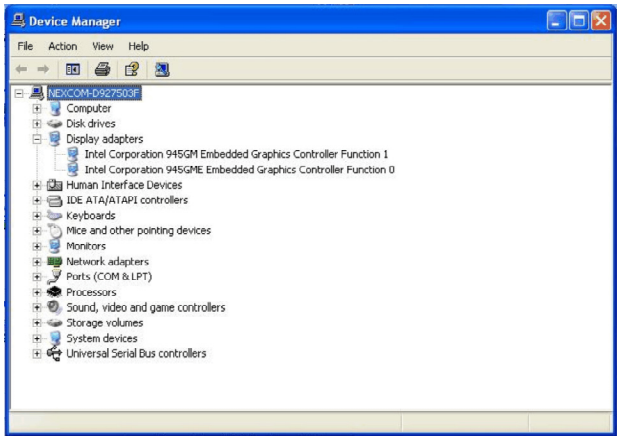
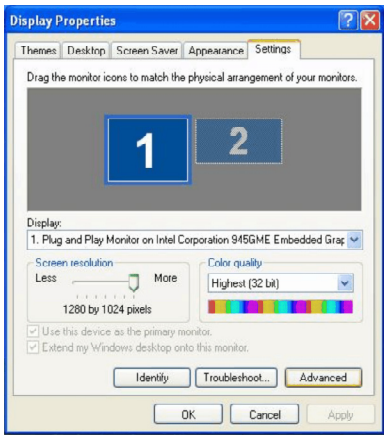
5. Device Manager is now able to detect the dual display graphics device.



6. On your desktop, right-click your mouse then select Properties. You can also double-click Display in Control Panel.

   In the Display Properties dialog box, select the Settings tab then click Advanced.


Display Properties
Themes Desktop Screen Saver Appearance Settings
Drag the monitor icons to match the physical arrangement of your monitors.
1
2
Display:
1. Plug and Play Monitor on Intel Corporation 945GME Embedded Grap
Screen resolution
Less More
1280 by 1024 pixels
Color quality
Highest (32 bit)
Use this device as the primary monitor.
Extend my Windows desktop onto this monitor.
Identify Troubleshoot... Advanced
OK Cancel Apply

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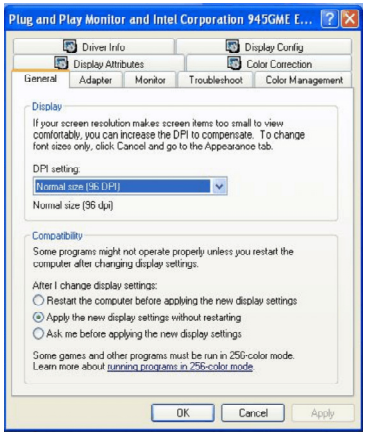
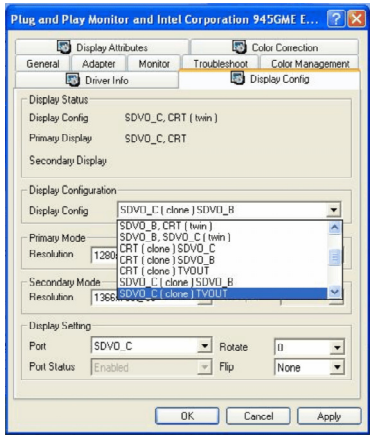
7. In the Plug and Play Monitor and Intel Corporation dialog box, you will first see the General tab. Select the Display Config tab.


Plug and Play Monitor and Intel Corporation 945GME E...
Driver Info
Display Config
Display Attributes
Color Correction
General
Adapter
Monitor
Troubleshoot
Color Management
Display
If your screen resolution makes screen items too small to view comfortably, you can increase the DPI to compensate. To change font sizes only, click Cancel and go to the Appearance tab.
DPI setting:
Normal size (96 DPI)
Normal size (96 dpi)
Compatibility
Some programs might not operate properly unless you restart the computer after changing display settings.
After I change display settings:
Restart the computer before applying the new display settings
Apply the new display settings without restarting
Ask me before applying the new display settings
Some games and other programs must be run in 256-color mode. Learn more about running programs in 256-color mode.
OK
Cancel
Apply

8. Under the Display Configuration section, select SDVO_C (clone) TVOUT then click OK.



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